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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

CHON, PETER

ART UNIT

PAPER NUMBER

2622

NOTIFICATION DATE

DELIVERY MODE

01/12/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No. 10/532,051	Applicant(s) HAGINO, YOSHIO	
	Examiner PETER CHON	Art Unit 2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 August 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8, 11-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 11-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on _____ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 11-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Murakami, USPAT 6359650** in view of **Ohsawa et al, USPAT 5499074**.

As to claim 1, Murakami discloses a focus state display comprising:

focus state judging means for judging whether or not an image captured from imaging means is in a focus state if the focus can be measured (*fig. 2A, 11, focus detection circuit; The focus detection circuit performs a hill-climb type auto focus adjustment to maximize the evaluation value on the basis of the image pickup signal (col. 5, lines 25-30).*); and

focus state display means for indicating information that indicates the focus state according to the focus state obtained by the focus state judging means on display means (*fig. 4A and fig. 4B; col. 6, lines 50-62; An indicator indicating an in focus state is displayed. In the instance where the image is out of focus, indicators (arrows) the direction of focus adjustment required (direction of arrows) and the magnitude of the movement required (bars of each arrow).*).

However, Murakami fails to disclose a focus state display comprising a focus state judging means for judging whether or not the focus state is capable of being measured (*Murakami relies on the Hill-Climbing method to determine the focus state. More specifically, using the Hill-Climbing method, Murakami finds the location of the highest contrast peak. However, Murakami fails to account for the situation where there isn't enough contrast within the image to detect the focusing state. In other words, the method of Murakami assumes that a sufficient peak can be detected.*).

Ohsawa, however, discloses an auto focus camera wherein the camera determines, in the auto focus process, whether or not focusing is obtainable. More specifically, Ohsawa discloses that when measuring for contrast (in determining focus position), the focus state is undetectable when there is a lack of contrast within the image (*col.4, lines 13-23*). Ohsawa further discloses that the user is warned of the fact that that focusing is unobtainable when a lack of contrast exists within an image scene (*col. 3, lines 51-55*).

Therefore, it would have been obvious to one of ordinary skill in the art to incorporate the step of determining that a lack of contrast exists within an imaging scene and warning the user of such a situation, as disclosed by Ohsawa, within the focus detecting apparatus of Murakami, in order to prevent the user from picking up an image based on the peak from an imaging scene with insufficient contrast (*Murakami discloses that focus is detected from detecting the highest contrast within the contrast curve for each focus area (col. 5, lines 25-42 and col. 7, lines 35-66 and fig. 9). Murakami assumes that a sufficient peak of the contrast curve is able to be measured (during for example, fig. 9, steps S2-S4). However, taking into account that there are situations where a sufficient contrast cannot be obtained, as obtained by Oshawa, the display of Murakami discloses that the focusing position cannot be obtained.*).

As to claim 2, Murakami in view of Ohsawa discloses a focus state display, comprising:

focus state judging means for judging whether or not the focus state is capable of being measured and whether or not an image captured from imaging means is in a focus state if the focus state can be measured(*See the above claim 1*);

focus state storage means for storing temporal progress of the focus states of images obtained by the focus state judging means with temporal progress of the captured images (*See the above claim 1*);

focus direction judging means for judging a focus direction from the temporal progress of the focus states obtained by the focus state storage means (*Murakami; The*

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focus evaluation values are compared to the temporal progress, stored in the focus state storage means (col. 7, lines 58-66). Subsequently, the microprocessor, 13, determines the display contents (col. 8, lines 1-3), and displays the out-of-focus amount and focusing direction (col. 8, lines 11-12)); and

focus state display means that, according to the focus direction obtained by the focus direction judging means, displays information that indicates its focus state and focus direction on display means (*Murakami; The microprocessor, 13, determines the display contents (col. 8, lines 1-3), and displays the out-of-focus amount and focusing direction (col. 8, lines 11-12). Furthermore, the user is determined when focusing cannot be obtained (Ohsawa; col. 3, lines 51-55).;*

As to claim 3, Murakami in view of Ohsawa discloses the focus state display according to either claim 1 or claim 2, wherein

the focus state display means indicates the focus state obtained by the focus state judging means with a plurality of graphic forms as many as a number according to its focused state (*Murakami; fig. 4B; The focus is displayed by displaying an arrow consisting of three bars, which indicates the degree of movement required for proper focus. In addition, the focus display comprises a circle, which is filled in when in focus (col. 6, lines 58-65).*).

As to claim 4, Murakami in view of Ohsawa discloses the focus state display according to either claim 1 or claim 2, wherein

the focus state display means indicates the focus direction obtained by the focus direction judging means with symbols (*Murakami; fig. 4B; The focus is displayed by*

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displaying an arrow consisting of three bars, which indicates the degree of movement required for proper focus and the movement direction. In addition, the focus display comprises a circle, which is filled in when in focus (col. 6, lines 58-65).).

As to claim 8, Murakami in view of Ohsawa discloses a portable terminal device comprising **imaging means** (Murakami; fig. 1, b) for picking up an image and **display means** (Murakami; fig. 1, e) for displaying the image obtained by the imaging means, further comprising

the focus state display according to claim 1 (Murakami; figs. 1, 2 and 4; *The electronic camera, 100, as disclosed in figs 1-2 encompasses the focus state display as disclosed within the above claim 1.).*

As to claim 11, please refer to the above claim 1.

As to claim 12, please refer to the above claim 2.

As to claim 13, Murakami in view of Ohsawa discloses the focus state display according to claim 1, wherein if the focus state cannot be measured, the focus state cannot be calculated due to any of brightness, shape and patterns of the image (Ohsawa discloses that a lack of contrast in an imaging scene will result in the inability to measure focus (see claim 1). Lack of contrast is inherently a result from brightness conditions within the imaging scene.).

As to claim 14, see the above claim 13.

As to claim 15, Murakami in view of Ohsawa discloses the focus state display according to claim 1, wherein the focus state display means indicates the focus state

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cannot be measured when the focus state judging means judges that the focus state is not capable of being measured (*Ohsawa; col. 3, lines 51-54*).

As to claim 16, see the above claim 15.

As to claim 17, see the above claim 1.

As to claim 18, see the above claim 2.

As to claim 19, Murakami in view of Ohsawa discloses the focus state display according to claim 1, wherein

The focus state display means indicates an indication informing the user that the in-focus state exists in the direction in which the camera moves closer to the object, or an indication informing the user that the in-focus state exists in the direction in which the camera moves away from the object (*Murakami; fig. 4A and 4B and fig. 5 and fig. 6A*).

Claims 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Murakami, USPAT 6359650** in view of **Ohsawa, USPAT 5499074**, further in view of **Singh et al, USPAT 6937284**.

As to claim 5, Murakami in view of Ohsawa discloses the focus state display according to either claim 1 or claim 2, **but fails to disclose** the focus state display to comprise a light emitting means, wherein the focus state display means indicates the focus state obtained by the focus state judging means by making the light emitting means blink or turn on (*Murakami; The in-focus state is displayed by filling in the circle (fig. 4B). There is no disclosed emitting light.*).

Singh, however, discloses a focus state display means which indicates the current focus state of an image by emitting light through a plurality of LED's, which signifies the level of focus (*fig. 5, 100; col. 10, lines 7-8*).

Therefore, it would have been obvious to one of ordinary skill in the art, to incorporate the plurality of LED's, signifying the current focus state, as disclosed within the focus state display of Singh, within the focus state display of Murakami in view of Ohsawa, in order to provide an alternative, and more eye catching method of indicating the focus state of the image.

As to claim 6, Murakami in view of Ohsawa, further in view of Singh discloses the focus state display according to either claim 1 or claim 2, **further comprising sounding means**, wherein the focus state display means informs the user of the focus state obtained by the focus state judging means by making the sounding means emit voice or sound (*Singh; col. 10, lines 27-42; A sonic transducer, 92, emits an audible sound which indicates the focus level.*).

Claims 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Murakami, USPAT 6359650** in view of **Ohsawa, USPAT 5499074**, in view of **Na, 6545715**.

As to claim 7, Murakami in view of Ohsawa discloses the focus state display according to either claim 1 or 2, **but fails to disclose** the focus state display to further comprise filtering means for eliminating high spatial frequency components of image data, wherein

the focus state display displays the image data by removing a wider range of high spatial frequency components with a filtering means as the focus state becomes worse based on the focus state obtained by the focus state judging means.

Na, however, discloses a focus control apparatus and method comprising an adaptive filter, reducing errors due to noise by removing high-frequency noise in a low-frequency area of the image, resulting in a more precise focus value (*col. 8, lines 36-43*).

Therefore, it would have been obvious to one of ordinary skill in the art, to incorporate the step of removing high-frequency noise from the image signal, as disclosed by Na, within the focus detecting/displaying apparatus, as disclosed by Murakami in view of Ohsawa, in order to obtain a more precise focusing (*Murakami discloses a focus detection circuit which detects a focus position for each distance measurement area (col. 7, lines 39-44). The focus position is then compared to a current position of the camera, to determine if the camera is in focus (col. 7, lines 47-57). The removal of high-frequency noise, as disclosed by Na, in finding the focus points, as disclosed by Murakami, results in a superior focus measurement, which will be compared to the current camera position (as disclosed by Murakami), resulting in the focus state/movement direction being displayed.*).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Chon whose telephone number is 571-270-1556. The examiner can normally be reached on 7:30-5:00, Mon-Fri, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on 571-272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David L. Ometz/

Supervisory Patent Examiner, Art Unit 2622